



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL EXPOSURE RESEARCH LABORATORY

HUMAN EXPOSURE & ATMOSPHERIC SCIENCES DIVISION (MD-D205-03)

Research Triangle Park, NC 27711

919-541-3737

Office of
Research and Development

LIST OF DESIGNATED REFERENCE AND EQUIVALENT METHODS

Issue Date: December 27, 2002

(www.epa.gov/ttn/amtic/criteria.html)

These methods for measuring ambient concentrations of specified air pollutants have been designated as "reference methods" or "equivalent methods" in accordance with Title 40, Part 53 of the Code of Federal Regulations (40 CFR Part 53). Subject to any limitations (e.g., operating range or temperature range) specified in the applicable designation, each method is acceptable for use in state or local air quality surveillance systems under 40 CFR Part 58 unless the applicable designation is subsequently canceled. Automated methods for pollutants other than PM₁₀ are acceptable for use only at shelter temperatures between 20°C and 30°C and line voltages between 105 and 125 volts unless wider limits are specified in the method description.

Prospective users of the methods listed should note (1) that each method must be used in strict accordance with its associated operation or instruction manual and with applicable quality assurance procedures, and (2) that modification of a method by its vendor or user may cause the pertinent designation to be inapplicable to the method as modified. (See Section 2.8 of Appendix C, 40 CFR Part 58 for approval of modifications to any of these methods by users.)

Further information concerning particular designations may be found in the *Federal Register* notice cited for each method or by writing to the National Exposure Research Laboratory, Human Exposure and Atmospheric Sciences Division (MD-46), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. Technical information concerning the methods should be obtained by contacting the source listed for each method. Source addresses are listed at the end of the listing of methods, except for the addresses for lead method sources, which are given with the method. New analyzers or PM₁₀ samplers sold as reference or equivalent methods must carry a label or sticker identifying them as designated methods. For analyzers or PM₁₀ samplers sold prior to the designation of a method with the same or similar model number, the model number does not necessarily identify an analyzer or sampler as a designated method. Consult the manufacturer or seller to determine if a previously sold analyzer or sampler can be considered a designated method or if it can be upgraded to designation status. Analyzer users who experience operational or other difficulties with a designated analyzer or sampler and are unable to resolve the problem directly with the instrument manufacturer may contact EPA (preferably in writing) at the above address for assistance.

This list will be revised as necessary to reflect any new designations or any cancellation of a designation currently in effect. The most current revision of the list will be available for inspection at EPA's Regional Offices, and copies may be obtained at the Internet site identified above or by writing to the National Exposure Research Laboratory at the address specified above.

Most Recent Designations

Tisch Environmental Model TE-6070 PM ₁₀ High Volume Sampler	April 02, 2002
BGI Models PQ200-VSCC and PQ200A-VSCC PM _{2.5} Sampler	April 02, 2002
R & P Partisol®-FRM Model 2000 PM-2.5 FEM PM _{2.5} Sampler	April 02, 2002
R & P Partisol® Model 2000 PM-2.5 FEM PM _{2.5} Audit Sampler	April 02, 2002
R & P Partisol®-Plus Model 2025 PM-2.5 FEM PM _{2.5} Seq. Sampler	April 02, 2002
Environnement S.A Model AC32M Nitrogen Oxides Analyzer	April 02, 2002
Environnement S.A Model CO12M Carbon Monoxide Analyzer	June 24, 2002
Environnement S.A Model O ₃ 42M Ozone Analyzer	June 24, 2002
Environnement S.A Model AF22M Sulfur Dioxide Analyzer	Sept. 12, 2002
Teledyne - Advanced Pollution Instrumentation Model 400E O ₃ Analyzer	Sept. 12, 2002
Thermo Andersen Series FH 62 C14 Continuous PM10 Monitor	Dec. 11, 2002

LEAD**Reference Method for Lead**

Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.

Manual Reference Method: 40 CFR Part 50, Appendix G

[*Federal Register: Vol. 43, page 46258, 10/05/78*]

Energy-Dispersive X-Ray Fluorescence Spectrometry (TNRCC)

Manual Equivalent Method: EQL-0783-058

"Determination of Lead Concentration in Ambient Particulate Matter by Energy-Dispersive X-Ray Fluorescence Spectrometry (Texas Natural Resource Conservation Commission)" Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, TX 78711-3087.

[*Federal Register: Vol. 48, page 29742, 06/28/83*]

Energy-Dispersive X-Ray Fluorescence Spectrometry (NEA, Inc.)

Manual Equivalent Method: EQL-0589-072

"Determination of Lead Concentration in Ambient Particulate Matter by Energy-Dispersive X-Ray Fluorescence Spectrometry (NEA, Inc.)" Nuclear Environmental Analysis, Inc., Suite 260, 10950 SW 5th Street, Beaverton, OR 97005.

[*Federal Register: Vol. 54, page 20193, 05/10/89*]

Flame Atomic Absorption Spectrometry

Manual Equivalent Method: EQL-0380-043

"Determination of Lead Concentration in Ambient Particulate Matter by Flame Atomic Absorption Spectrometry Following Ultrasonic Extraction with Heated HNO₃-HCl"

[*Federal Register: Vol. 45, page 14648, 03/06/80*]

Flameless Atomic Absorption Spectrometry (EPA/RTP, N.C.)

Manual Equivalent Method: EQL-0380-044

"Determination of Lead Concentration in Ambient Particulate Matter by Flameless Atomic Absorption Spectrometry (EPA/RTP, N.C.)"

[*Federal Register: Vol. 45, page 14648, 03/06/80*]

Flameless (Graphite Furnace) Atomic Absorption (Houston, Texas)

Manual Equivalent Method: EQL-0895-107

"Determination of Lead Concentration in Ambient Particulate Matter by Flameless (Graphite Furnace) Atomic Absorption (City of Houston, Texas)." Health and Human Services Department, Environmental Chemistry Service, 1115 S. Braeswood, Houston, TX 77030.

[*Federal Register: Vol. 60, page 39383, 08/02/95*]

Flameless Atomic Absorption Spectrometry (Omaha)

Manual Equivalent Method: EQL-0785-059

"Determination of Lead Concentration in Ambient Particulate Matter by Flameless Atomic Absorption Spectrometry (Omaha-Douglas County Health Department)" Omaha-Douglas County Health Department, 1819 Farnam Street, Omaha, NE 68183.

[*Federal Register: Vol. 50, page 37909, 09/18/85*]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Doe Run) *Manual Equivalent Method: EQL-0196-113*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Doe Run Co.)" Doe Run Company, Smelting Division, 881 Main Street Herculaneum, MO 63048

[*Federal Register: Vol. 61, page 11404, 03/20/96*]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (EPA/RTP) *Manual Equivalent Method: EQL-0380-045*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (EPA/RTP, N.C.)"

[*Federal Register: Vol. 45, page 14648, 03/06/80*]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (IL)

Manual Equivalent Method: EQL-1193-094

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of Illinois)." State of Illinois, Environmental Protection Agency, Champaign Inorganic Laboratory, 2120 South First Street, Champaign, IL 61820

[*Federal Register: Vol. 58, page 61902, 11/23/93*]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Kansas) *Manual Equivalent Method: EQL-0592-085*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of Kansas)" State of Kansas, Department of Health and Environment, Forbes Field, Building 740, Topeka, KS 66620-0001.

[*Federal Register: Vol. 57, page 20823, 05/15/92*]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Montana) *Manual Equivalent Method: EQL-0483-057*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of Montana)". State of Montana, Department of Health and Environmental Sciences, Cogswell Building, Helena, MT 59620.
[*Federal Register*: Vol. 48, page 14748, 04/05/83]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (NETI) *Manual Equivalent Method: EQL-1188-069*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Northern Engineering and Testing, Inc.)" Northern Engineering and Testing, Inc., P.O. Box 30615, Billings, MT 59107.
[*Federal Register*: Vol. 53, page 44947, 11/07/88]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (NH) *Manual Equivalent Method: EQL-1290-080*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of New Hampshire)" State of New Hampshire, Department of Environmental Services, Laboratory Service Unit, 6 Hazen Drive (P.O. Box 95), Concord, NH 03302-0095.
[*Federal Register*: Vol. 55, page 49119, 11/26/90]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (PA) *Manual Equivalent Method: EQL-0592-086*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Commonwealth of Pennsylvania)" Commonwealth of Pennsylvania, Department of Environmental Resources, P.O. Box 2357, Harrisburg, PA 17105-2357.
[*Federal Register*: Vol. 57, page 20823, 05/15/92]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Pima, AZ) *Manual Equivalent Method: EQL-0995-109*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Pima County, Arizona)." Pima County, Wastewater Management Department, 201 North Stone Avenue, Tucson, Arizona 85701-1207.
[*Federal Register*: Vol. 60, page 54684, 10/25/95]

Inductively Coupled Argon Plasma-Mass Spectrometry (Pima Co., AZ) *Manual Equivalent Method: EQL-0995-110*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Plasma-Mass Spectrometry (Pima County, Arizona)." Pima County, Wastewater Management Department, 201 North Stone Avenue, Tucson, Arizona 85701-1207.
[*Federal Register*: Vol. 60, page 54684, 10/25/95]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (RI) *Manual Equivalent Method: EQL-0888-068*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of Rhode Island)," State of Rhode Island Department of Health, Air Pollution Laboratory, 50 Orms Street, Providence, RI 02904
[*Federal Register*: Vol. 53, page 30866, 08/16/88]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Silver Valley)

Manual Equivalent Method: EQL-1288-070

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (Silver Valley Laboratories)," Silver Valley Laboratories, Inc., P.O. Box 929, Kellogg, ID 83837.
[*Federal Register*: Vol. 53, page 48974, 12/05/88]

Inductively Coupled Argon Plasma-Atomic Emission Spectrometry (TNRCC) *Manual Equivalent Method: EQL-0400-140*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Atomic Emission Spectrometry (TNRCC)," Texas Natural Resource Conservation Commission Laboratory, 5144 E. Sam Houston Parkway N., Houston, TX 77030.
[*Federal Register*: Vol. 65, page 26603, 5/8/00]

Inductively Coupled Argon Plasma-Optical Emission Spectrometry (WV) *Manual Equivalent Method: EQL-0694-096*

"Determination of Lead Concentration in Ambient Particulate Matter by Inductively Coupled Argon Plasma-Optical Emission Spectrometry (State of West Virginia)." State of West Virginia, Department of Commerce, Labor and Environmental Resources, Division of Environmental Protection, 1558 Washington Street East, Charleston, WV 25311-2599
[*Federal Register*: Vol. 59, page 29429, 06/07/94]

Wavelength Dispersive X-Ray Fluorescence Spectrometry (CA)

Manual Equivalent Method: EQL-0581-052

"Determination of Lead Concentration in Ambient Particulate Matter by Wavelength Dispersive X-Ray Fluorescence Spectrometry" California Department of Health Services, Air & Industrial Hygiene Laboratory, 2151 Berkeley Way, Berkeley, CA 94704.
[*Federal Register*: Vol. 46, page 29986, 06/04/81]

NOTES

¹ Users should be aware that designation of this analyzer for operation on ranges less than the range specified in the performance specifications for this analyzer (40 CFR 53, Subpart B) is based on meeting the same absolute performance specifications required for the specified range. Thus, designation of these lower ranges does not imply commensurably better performance than that obtained on the specified range.

² This analyzer is approved for use, with proper factory configuration, on either 50 or 60 Hertz line frequency and nominal power line voltages of 115 Vac and 230 Vac.

Sources or Contacts for Designated Reference and Equivalent Methods

ABB Process Analytics P.O. Box 831 Lewisburg, WV 24901 (304) 647-4358	Environics, Inc. 69 Industrial Park Rd. E. Tolland, CT 06084-2805 (203) 429-0077 www.environics.com	Rupprecht & Patashnick Co., Inc. 25 Corporate Circle Albany, NY 12203 (518) 452-0065 www.rpcocom
Advanced Pollution Instrumentation, Inc. [Refer to Teledyne - Advanced Pollution Instrumentation, Inc.]	Graseby GMW [Refer to Andersen Instruments]	Sibata Scientific Technology, Ltd. 1-25, 3-chome Ikenohata, Taito-ku Tokyo 110, Japan 81-3(3822)2272 TTani@email.msn.com
Andersen Instruments 500 Technology Court Smyrna, GA 30082-9211 (800) 241-6898 www.anderseninstruments.com	Horiba Instruments Incorporated 17671 Armstrong Avenue Irvine, CA 92714 (800) 446-7422 www.horiba.com	Teledyne - Advanced Pollution Instrumentation, Inc. 6565 Nancy Ridge Drive San Diego, CA 92121-2251 (619) 657-9800 www.teledyne-api.com
ASARCO Incorporated 3422 South 700 West Salt Lake City, UT 84119 (801) 262-2459	Lear Siegler [Refer to Monitor Labs, Inc.]	Teledyne Analytical Instruments 16830 Chestnut Street City of Industry, CA 91748 (626) 934-1622
Beckman Instruments, Inc. Process Instruments Division 2500 Harbor Blvd. Fullerton, CA 92634 (714) 871-4848	Commonwealth of Massachusetts Department of Environmental Quality Engineering Tewksbury, MA 01876	Thermo Environmental Instruments, Inc. 8 West Forge Parkway Franklin, MA 02038 (508) 520-0430 www.thermoei.com
Bendix [Refer to ABB Process Analytics]	Met One Instruments, Inc. 1600 Washington Blvd. Grants Pass, OR 97526 (541) 471-7111 www.metone.com (metone@metone.com)	Tisch Environmental, Inc. 145 S. Miami Avenue Village of Cleves, OH 45002 (513) 467-9000 www.tisch-env.com
BGI Incorporated 58 Guinan Street Waltham, MA 02451 (781) 891-9380 www.bgiusa.com (bgiinc@attglobal.net)	McMillan [Refer to Columbia Scientific Industries]	URG Corporation 116 Merritt Mill Road Chapel Hill, NC 27516 (919) 942-2753
Columbia Scientific Industries 11950 Jollyville Road Austin, TX 78759 (800) 531-5003	Mine Safety Appliances 600 Penn Center Blvd. Pittsburgh, PA 15235-5810 (412) 273-5101	U.S. EPA National Exposure Research Laboratory Human Exposure & Atmospheric Sciences Division (MD-46) Research Triangle Park, NC 27711 (919) 541-2622 www.epa.gov/heasd
Combustion Engineering [Refer to ABB Process Analytics]	Monitor Labs, Inc. 74 Inverness Drive Englewood, CO 80112-5189 (800) 422-1499 www.monitorlabs.com	Wedding and Associates, Inc. [Refer to Thermo Environmental Instruments, Inc.]
Dasibi Environmental Corp. 506 Paula Avenue Glendale, CA 91201 (818) 247-7601 www.dasibi.com	Opsis AB, Furulund, Sweden Instruments also available from: Opsis, Inc. 146-148 Sound Beach Avenue Old Greenwich, CT 06870 (203) 698-1810 www.opsis.se	
DKK-TOA Corporation 29-10, 1-Chome, Takadanobaba, Shinjuku-ku Tokyo 169-8648, Japan www.toadkk.co.jp	State of Oregon Department of Environmental Quality Air Quality Division 811 S.W. Sixth Avenue Portland, OR 97204	
Environnement S.A 111, bd Robespierre 78300 Poissy, France www.environnement-sa.com Instruments also available from: Altech/Environnement U.S.A. 2623 Kaneville Court Geneva, IL 60134 (630) 262-4400 rbrown@altechusa.com	PCI Ozone Corp. One Fairfield Crescent West Caldwell, NJ 07006 (201) 575-7052 www pci-wedeco.com	Phillips Electronic Instruments, Inc. 85 McKee Drive Mahwah, NJ 07430

U.S. EPA REFERENCE & EQUIVALENT METHODS FOR AMBIENT AIR

<u>Method</u>	<u>Designation Number</u>	<u>Method Code</u>	<u>Method</u>	<u>Designation Number</u>	<u>Method Code</u>			
SO_x Manual Methods								
Reference method (pararosaniline)	--	097	Monitor Labs ML9830B, Wedding 1020	RFCA-0992-088	088			
Technicon I (pararosaniline)	EQS-0775-001	097	MASS - CO 1 (Massachusetts)	RFCA-1280-050	050			
Technicon II (pararosaniline)	EQS-0775-002	097	Monitor Labs 8310	RFCA-0979-041	041			
SO_x Analyzers								
Advanced Pollution Instr. 100	EQSA-0990-077	077	Monitor Labs or Lear Siegler 8830	RFCA-0388-066	066			
Advanced Pollution Instr. 100A/100AS	EQSA-0495-100	100	Monitor Labs ML9830/9830B, Wedding 1020	RFCA-0992-088	088			
Ascaro 500	EQSA-0877-024	024	MSA 202S	RFCA-0177-018	018			
Beckman 953	EQSA-0678-029	029	Teledyne Advanced Pollution Instr. 300 or 300E	RFCA-1093-093	093			
Bendix 8303	EQSA-1078-030	030	Thermo Electron or Thermo					
Columbia Scientific Industries 5700	EQSA-0494-095	095	Environmental Instruments 48, 48C	RFCA-0981-054	054			
Dasibi 4108	EQSA-1086-061	061	NO_x Manual Methods					
DKK-TOA Corp. GFS-32	EQSA-0701-115	115	Sodium arsenite (orifice)	EQN-1277-026	084			
DKK-TOA Corp. GFS-112E, GFS-112E-1	EQSA-0100-133	133	Sodium arsenite/Technicon II	EQN-1277-027	084			
Environnement S.A. AF21M	EQSA-0292-084	084	TGS-ANSA (orifice)	EQN-1277-028	098			
Environnement S.A. AF22M	EQSA-0802-149	149	NO_x Analyzers					
Environnement S.A. SANOA	EQSA-0400-138	138	Advanced Pollution Instr. 200	RFNA-0691-082	082			
Horiba Model APSA-360/APSA-360ACE	EQSA-0197-114	114	Advanced Pollution Instr. 200A/200AU	RFNA-1194-099	099			
Lear Siegler AM2020	EQSA-1280-049	049	Beckman 952A	RFNA-0179-034	034			
Lear Siegler SM1000	EQSA-1275-005	005	Bendix 8101-B	RFNA-0479-038	038			
Lear Siegler or Monitor Labs ML9850,			Bendix 8101-C	RFNA-0777-022	022			
Monitor Labs ML9850B, Wedding 1040	EQSA-0193-092	092	Columbia Scientific Indust. 1600, 5600	RFNA-0977-025	025			
Meloy SA185-2A	EQSA-1275-006	006	Dasibi 2108	RFNA-1192-089	089			
Meloy SA28SE	EQSA-1078-032	032	DKK-TOA Corp GLN-114E, GLN-114E-1	RFNA-0798-121	121			
Meloy SA700	EQSA-0580-046	046	Environnement S.A. AC31M	RFNA-0795-104	104			
Monitor Labs 8450	EQSA-0876-013	513	Environnement S.A. AC32M	RFNA-0202-146	146			
Monitor Labs or Lear Siegler 8850	EQSA-0779-039	039	Environnement S.A. SANOA	EQNA-0400-139	139			
Monitor Labs or Lear Siegler 8850S	EQSA-0390-075	075	Horiba APNA-360	RFNA-0196-111	111			
Monitor Labs ML9850/9850B, Wedding 1040	EQSA-0193-092	092	Lear Siegler or Monitor Labs ML9841	RFNA-1292-090	090			
Opsis AR 500, System 300 (open path)	EQSA-0495-101	101	Meloy NA530R	RFNA-1078-031	031			
Philips PW7000	EQSA-0876-011	511	Monitor Labs 8440E	RFNA-0677-021	021			
Philips PW9755	EQSA-0676-010	010	Monitor Labs or Lear Siegler 8840	RFNA-0280-042	042			
Teledyne Analytical Instruments 6400A	EQSA-0495-100	100	Monitor Labs or Lear Siegler 8841	RFNA-0991-083	083			
Thermo Electron 43	EQSA-0276-009	009	Monitor Labs ML9841/A/B, Wedding 1030	RFNA-1292-090	090			
Thermo Electron 43A or Thermo			Opsis AR 500, System 300 (open path)	EQNA-0495-102	102			
Environmental Instruments 43B, 43C	EQSA-0486-060	060	Philips PW9762/02	RFNA-0879-040	040			
O₃ Analyzers			Teledyne Analytical Instruments 9110A	RFNA-1194-099	099			
Advanced Pollution Instr. 400/400A/400E	EQOA-0992-087	087	Thermo Electron or Thermo					
Beckman 950A	RFOA-0577-020	020	Environmental Instruments 14B/E	RFNA-0179-035	035			
Bendix 8002	RFOA-0176-007	007	Thermo Electron or Thermo	RFNA-0279-037	037			
Columbia Scientific Industries 2000	RFOA-0279-036	036	Environmental Instruments 14D/E	RFNA-1289-074	074			
Dasibi 1003-AH, -PC, -RS	EQOA-0577-019	019	Thermo Environmental Instr. 42, 42C					
Dasibi 1008-AH, -PC, -RS	EQOA-0388-056	056	Pb Manual Methods					
DKK-TOA Corp. GUX-113E, GUX-113E-1	EQOA-0200-134	134	Reference method (hi-vol/AA spect.)	--	803			
Envionronics 300	EQOA-0990-078	078	Hi-vol/AA spect. (alt. extr.)	EQL-0380-043	043			
Environnement S.A O ₃ 41M	EQOA-0895-105	105	Hi-vol/Energy-disp XRF (TX ACB)	EQL-0783-058	058			
Environnement S.A O ₃ 42M	EQOA-0206-148	148	Hi-vol/Energy-disp XRF (NEA)	EQL-0589-072	072			
Environnement S.A SANOA	EQOA-0400-137	137	Hi-vol/Flameless AA (EMSL/EPA)	EQL-0380-044	044			
Horiba APOA-360	EQOA-0196-112	112	Hi-vol/Flameless AA (Houston)	EQL-0895-107	107			
Lear Siegler or Monitor Labs ML9810,			Hi-vol/Flameless AA (Omaha)	EQL-0785-059	059			
ML9810B, Wedding 1010	EQOA-0193-091	091	Hi-vol/ICAP spect. (Doe Run Co.)	EQL-0196-113	113			
McMillan 1100-1	RFOA-1076-014	514	Hi-vol/ICAP spect. (EMSL/EPA)	EQL-0380-045	045			
McMillan 1100-2	RFOA-1076-015	515	Hi-vol/ICAP spect. (Illinois)	EQL-1193-094	094			
McMillan 1100-3	RFOA-1076-016	016	Hi-vol/ICAP spect. (Kansas)	EQL-0592-085	085			
Meloy OA325-2R	RFOA-1075-003	003	Hi-vol/ICAP spect. (Montana)	EQL-0483-057	057			
Meloy OA350-2R	RFOA-1075-004	004	Hi-vol/ICAP spect. (NE&T)	EQL-1188-069	069			
Monitor Labs 8410E	RFOA-1176-017	017	Hi-vol/ICAP spect. (New Hampshire)	EQL-1290-080	080			
Monitor Labs or Lear Siegler 8810	EQOA-0881-053	053	Hi-vol/ICAP spect. (Pennsylvania)	EQL-0592-086	086			
Monitor Labs ML9810/9810B, ML9811, ML9812	EQOA-0193-091	091	Hi-vol/ICAP spect. (Pima Co., AZ)	EQL-0995-109	109			
Opsis AR 500, System 300 (open path)	EQOA-0495-103	103	Hi-vol/ICAP spect. (Pima Co., AZ)	EQL-0995-110	110			
PCI Ozone Corp. LC-12	EQOA-0382-055	055	Hi-vol/ICAP spect. (Rhode Island)	EQL-0888-068	068			
Philips PW9771	EQOA-0777-023	023	Hi-vol/ICAP spect. (Silver Val. Labs)	EQL-1288-070	070			
Teledyne - Advanced Pollution Instr. 400E	EQOA-0992-087	087	Hi-vol/ICAP spect. (TNRCC)	EQL-0400-140	140			
Thermo Electron or Thermo			Hi-vol/ICAP spect. (West Virginia)	EQL-0694-096	096			
Environmental Instruments 49, 49C	EQOA-0880-047	047	Hi-vol/WL-disp. XRF (CA A&IHL)	EQL-0581-052	052			
CO Analyzers								
Beckman 866	RFCA-0876-012	012	PM₁₀ Samplers					
Bendix 8501-5CA	RFCA-0276-008	008	Andersen Instruments RAAS10-100	RFPS-0699-130	130			
Dasibi 3003	RFCA-0381-051	051	Andersen Instruments RAAS10-200	RFPS-0699-131	131			
Dasibi 3008	RFCA-0488-067	067	Andersen Instruments RAAS10-300	RFPS-0699-132	132			
Environnement S.A CO11M	RFCA-0995-108	108	BGI Model PQ100	RFPS-1298-124	124			
Environnement S.A CO12M	RFCA-0206-147	147	BGI Model PQ200	RFPS-1298-125	125			
Horiba AQM-10, -11, -12	RFCA-1278-033	033	PM₁₀ Samplers (continued)					
Horiba 300E/300SE	RFCA-1180-048	048	Oregon DEQ Medium volume sampler	RFPS-0389-071	071			
Horiba APMA-360	RFCA-0895-106	106	Rupprecht & Patashnick Partisol 2000	RFPS-0694-098	098			
Lear Siegler or Monitor Labs ML9830,			R & P Partisol-FRM Model 2000	RFPS-1298-126	126			
			R & P Partisol-Plus Model 2025 Seq.	RFPS-1298-127	127			

U.S. EPA REFERENCE & EQUIVALENT METHODS FOR AMBIENT AIR

<u>Method</u>	<u>Designation Number</u>	<u>Method Code</u>	<u>Method</u>	<u>Designation Number</u>	<u>Method Code</u>
Sierra-Andersen/GMW 1200	RFPS-1287-063	063			
Sierra-Andersen/GMW 321-B	RFPS-1287-064	064			
Sierra-Andersen/GMW 321-C	RFPS-1287-065	065			
Sierra-Andersen/GMW 241 Dichot.	RFPS-0789-073	073			
Tisch Environmental Model TE-6070	RFPS-0202-141	141			
W&A/Thermo Electron Mod 600 HVL	RFPS-1087-062	062			
PM₁₀ Analyzers					
Andersen Instruments Beta FH62I-N	EQPM-0990-076	076			
Met One BAM1020, GBAM1020, BAM1020-1, GBAM1020-1	EQPM-0798-122	122			
R & P TEOM 1400, 1400a	EQPM-1090-079	079			
Thermo Andersen Series FH 62 C14 Beta Monitor	EQPM-1102-150	150			
W&A/Thermo Electron 650 Beta Gauge	EQPM-0391-081	081			
PM_{2.5} Samplers					
Andersen Model RAAS2.5-200 Audit	RFPS-0299-128	128			
BGI PQ200/200A	RFPS-0498-116	116			
BGI PQ200-VSCC or PQ200A-VSCC	EQPM-0202-142	142			
Graseby Andersen RAAS2.5-100	RFPS-0598-119	119			
Graseby Andersen RAAS2.5-300	RFPS-0598-120	120			
R & P Partisol-FRM 2000 PM-2.5	RFPS-0498-117	117			
R & P Partisol-FRM 2000 PM-2.5 FEM	EQPM-0202-143	143			
R & P Partisol 2000 PM-2.5 Audit	RFPS-0499-129	129			
R & P Partisol 2000 PM-2.5 FEM Audit	EQPM-0202-144	144			
R & P Partisol-Plus 2025 PM-2.5 Seq.	RFPS-0498-118	118			
R & P Partisol-Plus 2025 PM-2.5 FEM Seq.	EQPM-0202-145	145			
Thermo Environmental Model 605 CAPS	RFPS-1098-123	123			
URG-MASS100	RFPS-0400-135	135			
URG-MASS300	RFPS-0400-136	136			
TSP Manual Method					
Reference method (high-volume)	--	802			